HIKVISION

Day Night Box Camera

User Manual

www.hikvision.com

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

This manual applies to following cameras:

Models	Models
DS-2CC1181P(N)(-A)	DS-2CC1191P(N)(-A)
DS-2CC11A1P(N)(-A)	DS-2CC1112P(N)(-A)
DS-2CC1172P(N)(-A)	DS-2CC1182P(N)(-A)
DS-2CC1192P(N)(-A)	DS-2CC11A2P(N)
DS-2CC1183P(N)-A(-C)	DS-2CC1193P(N)-A(-C)
DS-2CC11A3P(N)-A(-C)	DS-2CC1185P(N)-A(-C)
DS-2CC1195P(N)-A(-C)	DS-2CC11A5P(N)-A(-C)
DS-2CC1187P(N)-A(-C)	DS-2CC1197P(N)-A(-C)
DS-2CC11A7P(N)-A(-C)	DS-2CC1188P(N)-A(-C)
DS-2CC1198P(N)-A(-C)	DS-2CC11A8P(N)-A(-C)

This manual may contain several technical incorrect places or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

DISCLAIMER STATEMENT

"Underwriters Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of

this product. UL has only tested for fire, shock or casualty hazards as outlined in UL's Standard(s) for Safety, UL60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product. UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT."

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into "Warnings" and "Cautions"

Warnings: Serious injury or death may occur if any of the warnings are neglected.

Cautions: Injury or equipment damage may occur if any of the cautions are neglected.

	
Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

Warnings

- Please adopt the power adapter which can meet the safety extra low voltage (SELV) request. And source with DC 12V or AC 24V (depending on models) according to the IEC60950-1 and Limited Power Source standard.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any

responsibility for problems caused by unauthorized repair or maintenance.)

- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- Please make sure that the ceiling can support more than 50(N) Newton gravities if the camera is fixed to the ceiling.

Cautions

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.

- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor will not be exposed to the laser beam.
- Do not place the camera in extremely hot or cold temperatures (the operating temperature should be between -10°C ~ 60°C, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Do not let water and any liquid flow into the camera.
- While shipping, the camera should be packed in its original packing, or packing of the same texture.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Table of Contents

1 Introduction

1.1 Product Features

This camera adopts high performance sensor and advanced print circuit board design technology. It possesses of high resolution, low distortion, and low noise features, etc. It is extremely suitable for surveillance system and image process system.

The features of DS-2CC1181/1191/11A1P(N)(-A) are as follows:

- Adopt high performance SONY CCD, and supply high definition and clear image
- Low illumination
- Support day and night auto switch
- Support OSD menu controlling, enable user to configure the detailed parameters
- Support digital noise reduction to get clear and fine image
- Support digital wide dynamic range function
- Support eclipse
- High Signal Noise Ratio (SNR) to ensure clear and pleased image
- Support auto iris
- Convenient back focus adjustment

The features of DS-2CC1112/1172/1182/1192P(N)(-A) and DS-2CC11A2P(N) are as follows:

- Adopt high performance SONY CCD, and supply high definition and clear image
- Low illumination, 0.001Lux@F1.2 (F1.2 , AGC ON)
- Support day and night auto switch
- Support digital noise reduction to get clear and fine image
- Support digital wide dynamic range function
- High Signal Noise Ratio (SNR) to ensure clear and pleased image
- Support auto iris
- Convenient back focus adjustment

The features of DS-2CC1183/1193/11A3/1185/1195/11A5/1187/1197/11A7/1188/1198/11A8P(N)-A(-C) are as follows:

- Adopt high performance SONY CCD, and supply high definition and clear image
- Low illumination, color 0.001Lux@F1.2, B/W 0.0001Lux@F1.2
- Support day and night auto switch, IR cut filter auto switch
- Support OSD menu controlling, enable user to configure the detailed parameters
- Support 3D digital noise reduction to get clear and fine image
- Support digital wide dynamic range function
- Smart IR function

- Support electronic image stabilization (EIS) to get steady and clear image
- Support eclipse
- Support BLC with programmable BLC area
- Support auto white balance with high color rendition
- Support auto electronic shutter control to adapt to different environments
- Support auto gain control, adaptive brightness
- High Signal Noise Ratio (SNR) to ensure clear and pleased image
- Support auto iris
- Convenient back focus adjustment
- Super wide dynamic range. The range is larger than 75dB.
- High light compensation

Notes:

- Only the DS-2CC1187/1197/11A7P(N)-A(-C) models support the super wide dynamic range function.
- The DS-2CC1187/1197/11A7P(N)-A(-C) models don't support digital wide dynamic range function.
- Only the DS-2CC1188/1198/11A8P(N)-A(-C) support the high light compensation.
- The DS-2CC1188/1198/11A8P(N)-A(-C) models don't support smart IR function.

1.2 Overview

The appearances of the cameras are as follows:

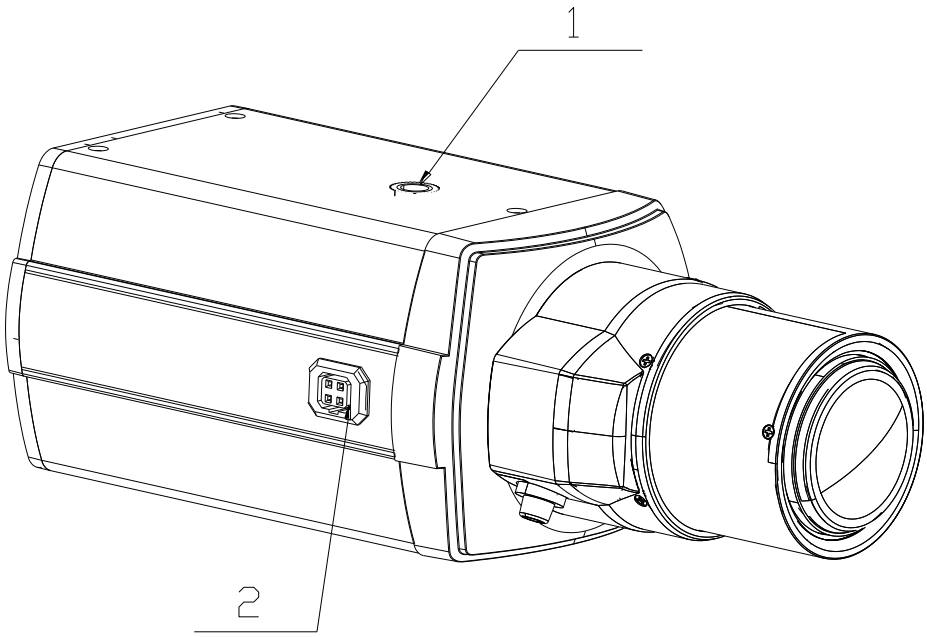


Figure 1-1 Overview

1-Lock Screws: available both on top and bottom for ceiling mounting and wall mounting respectively.

2-Auto-Iris Drive Interface: It connects the lens to the auto drive circuit in the camera which outputs direct current to drive the iris.

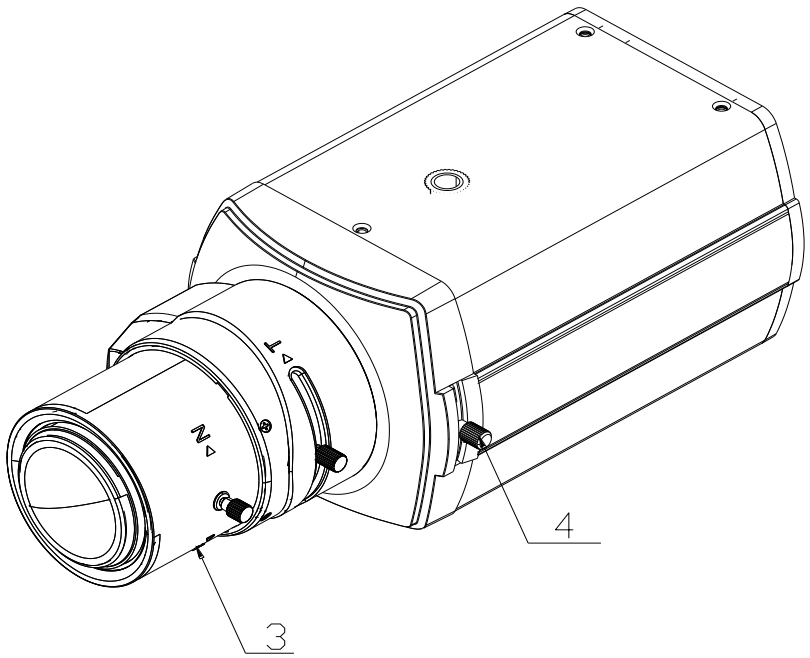


Figure 1-2 Side View

3-Lens: the optical lens adopted for the box camera (not provided. Please purchase a compatible lens for the camera).

4-Back Focus Lever: It is set to optimum status by default. You can also manually pull and adjust it for more accuracy focus.

Notes:

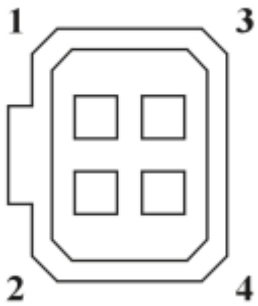
The back focus has been configured to optimum value by default. But it can be adjusted slightly to coordinate with different lens. Adjust the back focus lever when the lens connector has been confirmed but the lens is still not focalized.

The setting steps are as follows:

Steps:

1. Rotate the lens to the camera tightly.

2. Loosen the set screw of back focus lever.
3. Adjust the stick left and right until lens gets clear image
4. Lock the set screw.



	Video	DC
1	Power	Damp-
2	NC	Damp+
3	Video	Driver+
4	GND	Driver-

Figure 1-3 Pins of the Auto Iris Interface

The auto iris interface is composed of four square pins as shown in Figure 1-3.

- Power, Video and GND pins are used in video driven mode.
- Damp+, damp-, drive+ and drive- pins are used in DC driven mode.

There are two driven modes of auto iris as follows:

- Video Driven: The camera inputs the video signal level into lens interior, and internal drive circuit of the lens outputs control voltage for the electronic motor to adjust lens iris.
- Direct Current Driven: There is a drive circuit for electronic motor of the iris in the camera. The drive circuit can directly output DC control voltage to control electronic motor.

Note: DS-2CC1181/1191/11A1P(N)(-A) models don't support VD driven mode.

1.2.1 Rear Panel (A)

The rear panel of DS-2CC1181/1191/11A1P (N) models is shown as follows.

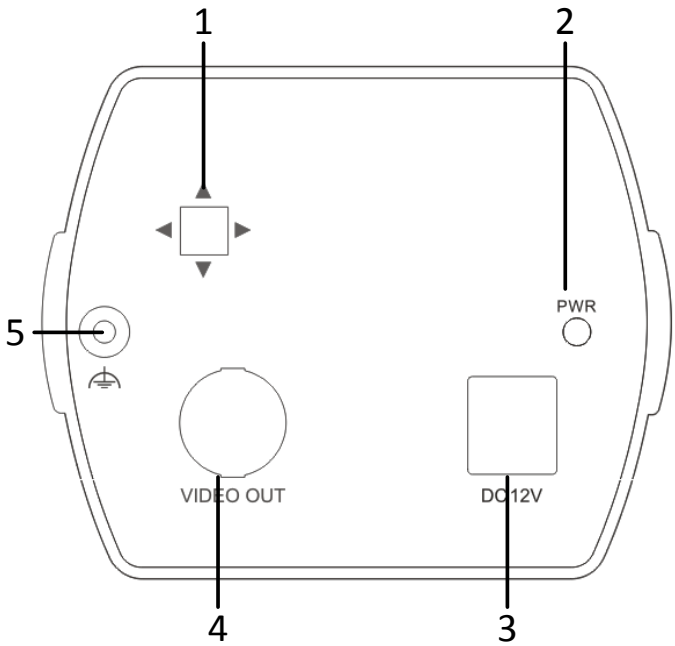


Figure 1-4 Rear Panel (12V)

Table 1-1 Rear Panel Description

No.	Items	Description
1	Joystick	Used to control OSD
2	PWR Indicator	The indicator is on, when the power is up.

No.	Items	Description
3	Power Interface	12V DC
4	Video Output	
5	Grounding Screw	

1.2.2 Rear Panel (B)

The rear panel of DS-2CC1181/1191/11A1P(N)-A models is shown as follows.

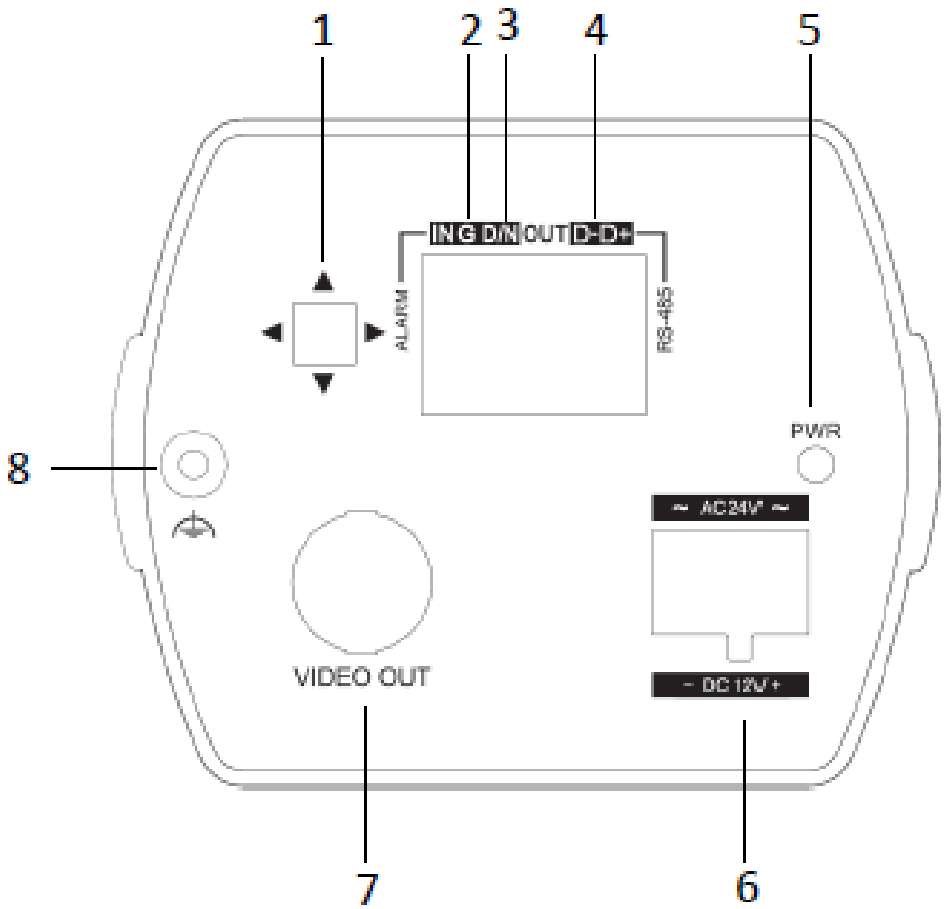


Figure 1-5 Rear Panel （12V and 24V）

Table 1-2 Rear Panel Description

No.	Items	Description
1	Joystick	Used to control OSD
2	Alarm OUT, IN, GND Interface	Support alarm in and out.
3	D/N Interface	Used to switch day/night mode externally
4	RS-485 Interface	Used for remote control by DVR, keyboard, etc.
5	PWR Indicator	The indicator is on, when the power is up.
6	Power Interface	Support both 12V DC and 24V AC.
7	Video Output	
8	Grounding Screw	

1.2.3 Rear Panel (C)

The rear panel of DS-2CC1112/1172/1182/1192/11A2P(N) models is shown as follows.

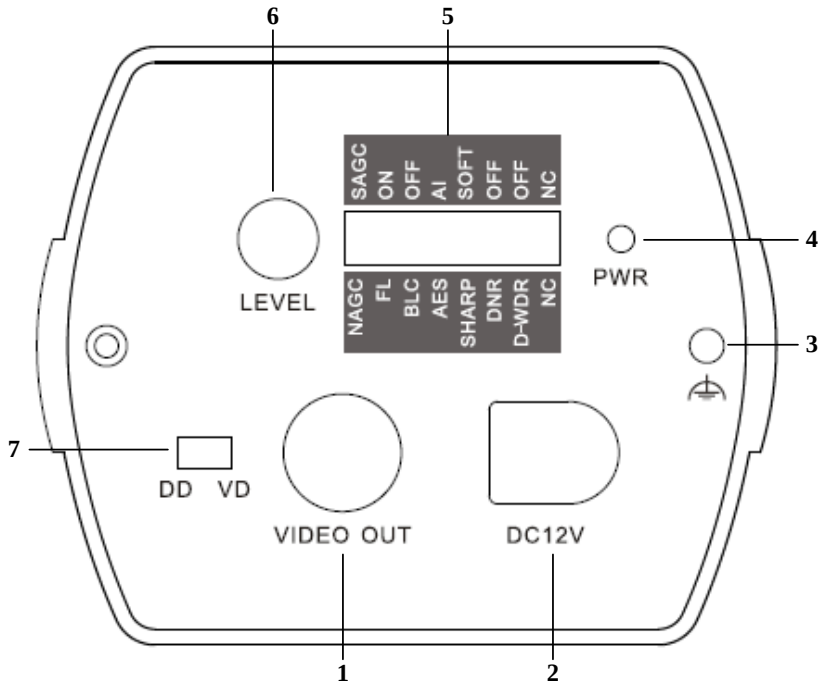


Figure 1-6 Rear Panel

Table 1-3 Rear Panel Description

No.	Items	Description
1	Video Output	1Vp-p Composite Output (75Ω/BNC)
2	Power Interface	12V DC
3	Grounding Screw	
4	PWR Indicator	The indicator is on, when the power is up.
5	Dial-switch	Used for adjust the

No.	Items	Description
		image parameters.
6	LEVEL knob	If the auto iris lens is DD type, you can adjust the size of iris with this knob to get a better brightness level. If the auto iris lens is VD type, this knob is invalid.
7	DD and VD Switch	The camera supports DD(DC Drive) and VD(Video Drive) iris driven modes. If the auto iris lens is DD type, you need to turn the switch to DD side. If the auto iris lens is VD type, you need to turn the switch to VD side.

Descriptions of the dial-switches are shown as follows:

Table 1-4 Dial-switch

Name	Description
NAGC	Normal AGC: Normal auto gain control.
SAGC	Super AGC: Super auto gain control.
FL	Flickerless: The image flickers when the power is different (such as the PAL and NTSC system). You can turn this switch to ON to improve the image.
BLC	Back light compensation: The exposure value for compensating back light will be adjusted automatically when this feature is enabled.
AI	Auto iris: Please turn switch to AI when auto iris lens is used.
AES	Auto electronic shutter: Please turn switch to AES when auto iris lens is not used.
SHARP	Sharpness: Lines of objects will be straighter when you turn switch to SHARP.
SOFT	Sharpness: Edges and corners will be softer when you turn switch to SOFT.
DNR	Digital noise reduction: Enable this function to reduce noise effectively.
D-WDR	Digital wide dynamic range: Enable this function to enlarge wide dynamic range.
NC	Reserved

1.2.4 Rear Panel (D)

The rear panel of DS-2CC1112/1172/1182/1192P(N)-A models is shown as follows.

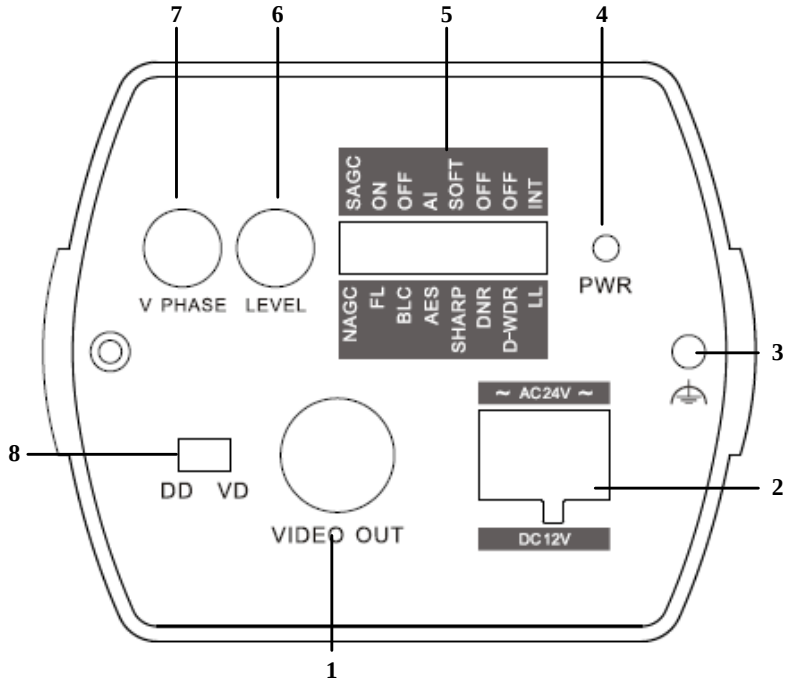


Figure 1-7 Rear Panel

Table 1-5 Rear Panel Description

No.	Items	Description
1	Video Output	1Vp-p Composite Output(75Ω/BNC) ;

No.	Items	Description
2	Power Interface	Support both 12V DC and 24V AC.
3	Grounding Screw	
4	PWR Indicator	The indicator is on, when the power is up.
5	Dial-switch	Used for adjust the image parameters.
6	LEVEL knob	If the auto iris lens is DD type, you can adjust the size of iris with this knob to get a better brightness level. If the auto iris lens is VD type, this knob is invalid.
7	V PHASE	Under power synchronization mode, you can adjust the synchronization phase with this knob. Under Internal synchronization mode, this knob is

No.	Items	Description
		invalid.
8	DD and VD Switch	The camera supports DD(DC Drive) and VD(Video Drive) iris driven modes. If the auto iris lens is DD type, you need to turn the switch to DD side. If the auto iris lens is VD type, you need to turn the switch to VD side.

Descriptions of the dial-switches are shown as follows:

Table 1-6 Dial-switch

Name	Description
NAGC	Normal AGC: Normal auto gain control.
SAGC	Super AGC: Super auto gain control.
FL	Flickerless: The image flickers when the power is different (such as the PAL and NTSC system). You can turn this switch to ON to improve the image.

Name	Description
BLC	Back light compensation: The exposure value for compensating back light will be adjusted automatically when this feature is enabled.
AI	Auto iris: Please turn switch to AI when auto iris lens is used.
AES	Auto electronic shutter: Please turn switch to AES when auto iris lens is not used.
SHARP	Sharpness: Lines of objects will be straighter when you turn switch to SHARP.
SOFT	Sharpness: Edges and corners will be softer when you turn switch to SOFT.
DNR	Digital noise reduction: Enable this function to reduce noise effectively.
D-WDR	Digital wide dynamic range: Enable this function to enlarge wide dynamic range.
LL	Power synchronization: Please turn switch to LL when power synchronization mode is needed.
INT	Internal synchronization: Please turn switch to INT when internal synchronization mode is needed.

1.2.5 Rear Panel (E)

The rear panel of DS-2CC1183/1193/11A3/1185/1195/11A5/1187/1197/11A7/1188/1198/11A8P(N)-A models is shown as follows.

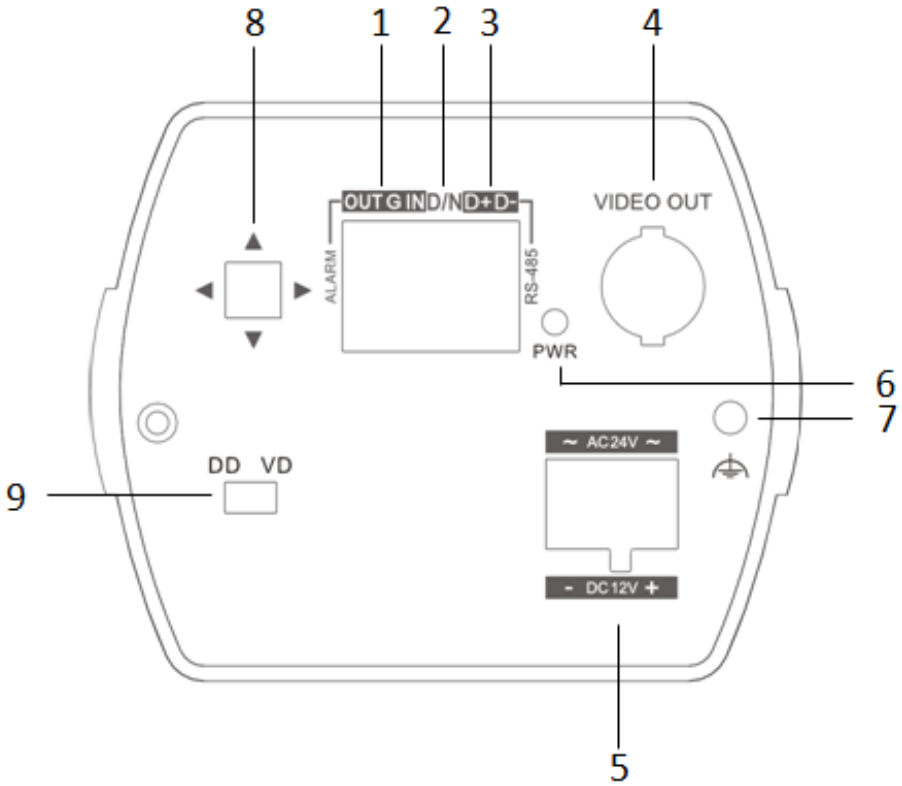


Figure 1-8 Rear Panel

Table 1-7 Rear Panel Description

No.	Items	Description
1	Alarm OUT, IN, GND Interface	Support alarm in and out.

No.	Items	Description
2	D/N Interface	Used to switch day/night mode externally
3	RS-485 Interface	Used for remote control by DVR, keyboard, etc.
4	Video Output	Output up to 700 TVL high-definition video.
5	Power Interface	Support both 12V DC and 24V AC.
6	PWR Indicator	The indicator is on, when the power is up.
7	Grounding Screw	
8	Joystick	
9	DD and VD Switch	Used for selecting the iris mode to DD(DC Drive) or VD(Video Drive).

1.2.6 Rear Panel (F)

The rear panel of DS-2CC1183/1193/11A3/1185/1195/11A5/1187/1197/11A7/1188/1198/11A8P(N)-C models is shown as follows.

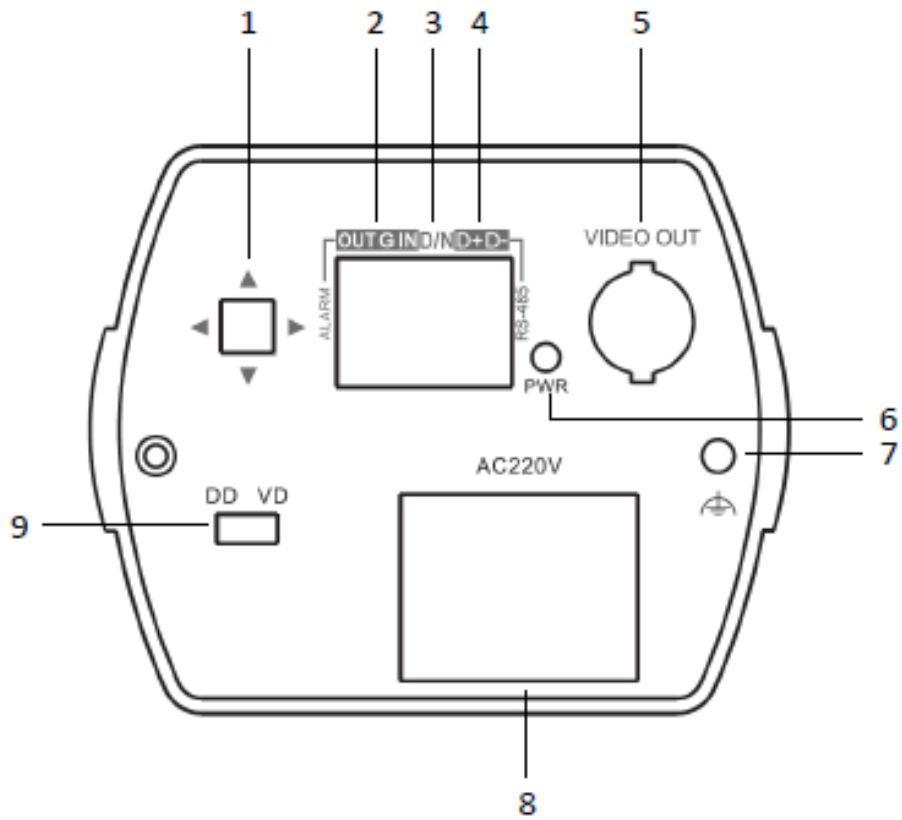


Figure 1-9 Rear Panel

Table 1-8 Rear Panel Description

No.	Items	Description
1	Joystick	
2	Alarm OUT, IN, GND	Support alarm in and

No.	Items	Description
	Interface	out.
3	D/N Interface	Used to switch day/night mode externally
4	RS-485 Interface	Used for remote control by DVR, keyboard, etc.
5	Video Output	Output up to 700 TVL high-definition video.
6	PWR Indicator	The indicator is on, when the power is up.
7	Grounding Screw	
8	Power Interface	Support 110-240V AC.
9	DD and VD Switch	Used for selecting the iris mode to DD(DC Drive) or VD(Video Drive).

2 Installation

Before you start:

Please make sure that the device in the package is in good condition and all the assembly parts are included.

2.1 Wall Mounting

Steps:

1. Rotate the lens clockwise onto the lens mount of the camera.
2. Plug the wire of auto iris lens to the auto iris interface of the camera.

Notes:

- Please prevent dust from entering between the lens mount and the lens.
- The weight of the lens must be less than 1kg. It's better to install a lens with CS type interface. If the interface of lens is C type, you need to install a C adaptor between the lens and the camera.

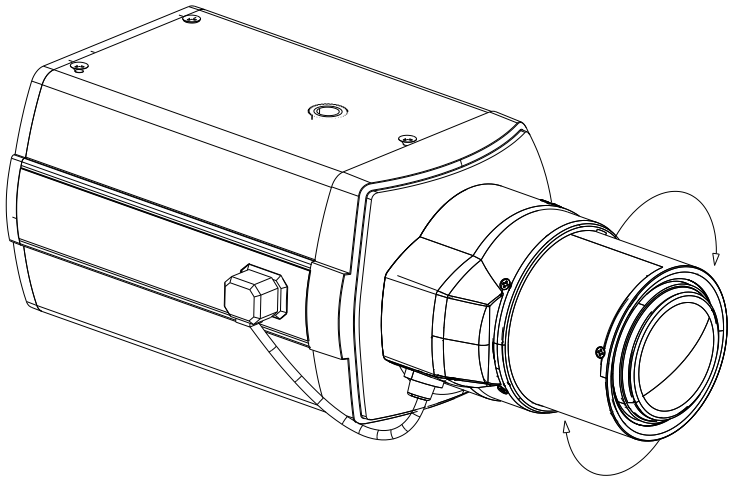


Figure 2-1 Lens Installation

3. Attach the camera to the fixing metal plate and fix them together with a 1/4# screw.

Note: Please install the camera correctly to avoid a reversed image displayed in the monitor.

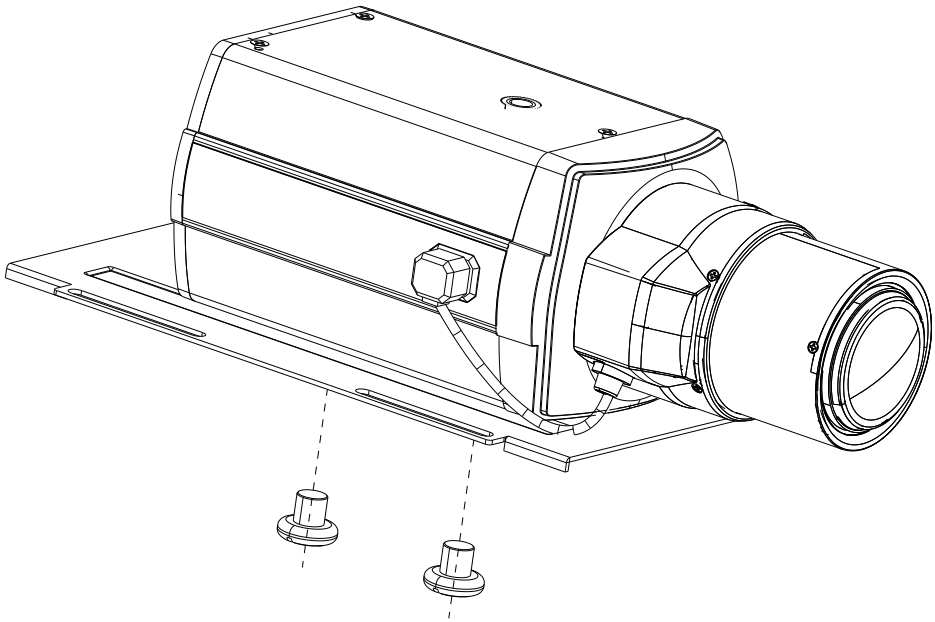


Figure 2-2 Install the Metal Plate

4. Install the camera with the metal plate to the housing and fix them with screws.

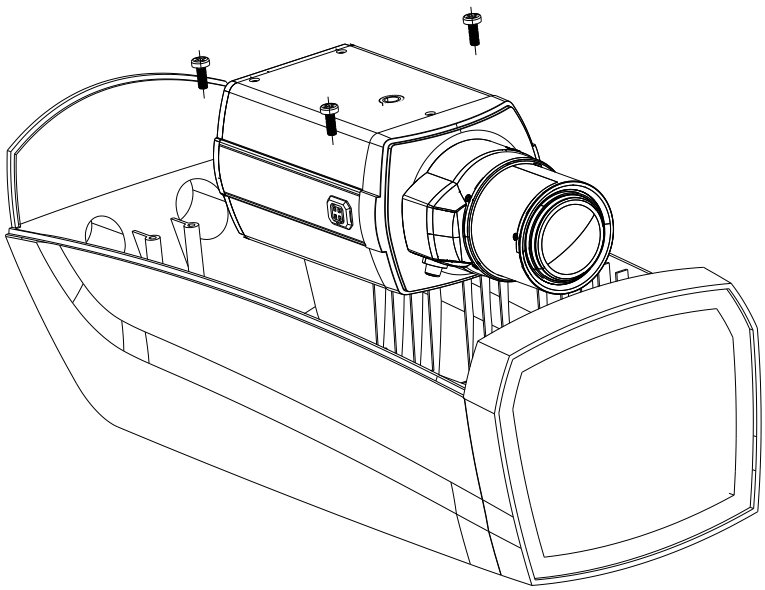


Figure 2-3 Housing Installation

5. Connect the power supply and video output and cover the housing. For more details, please refer to *the user manual of the housing*.
6. Attach the wall mount to the wall and tighten the screws to fix it.

Notes:

- The wall mount (not provided) should be longer than 1/2 of the camera length.
- Please make sure that the wall is strong enough to withstand three times the weight of the camera.
- For cement wall mounting, you need to use the expansion screw to fix the mount. The mounting hole of the expansion

pipe on the wall should align with the mounting hole on the bracket.

- For wooden wall mounting, you can just use the self-tapping screw to fix the bracket.

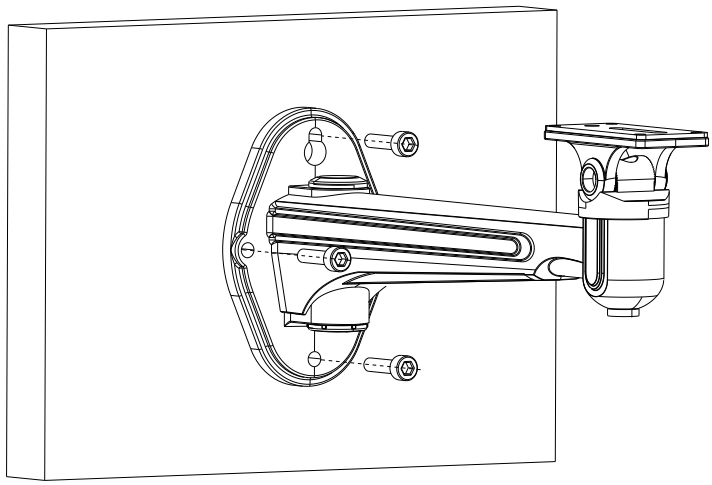


Figure 2-4 Install the Wall Mount

7. Attach the camera with the housing to the wall mount and tighten the fix screw to fix the camera.

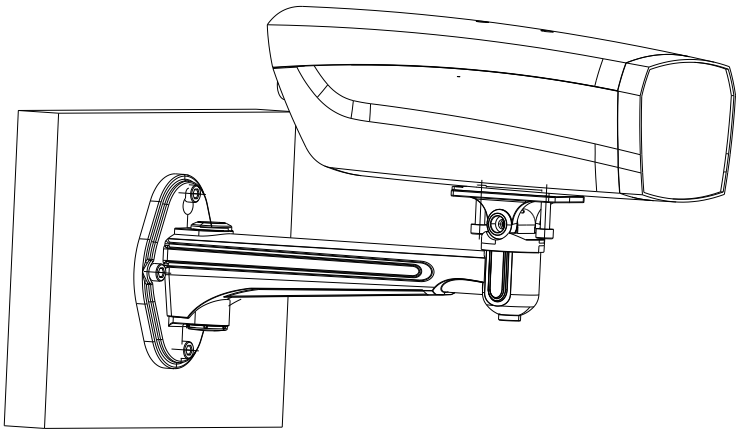


Figure 2-5 Wall Mounting

8. Loosen the panning lock screw. You can adjust the panning angle of the camera (Figure 2-6).
9. Loosen the tilting lock screw. You can adjust the tilting angle of the camera (Figure 2-7).

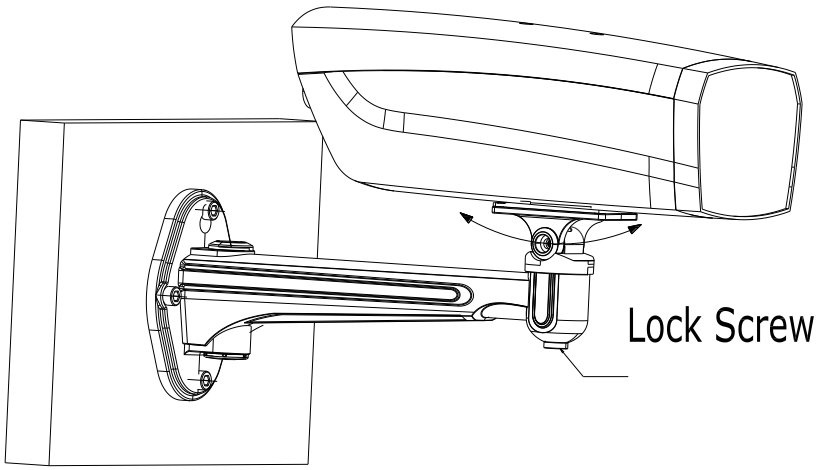


Figure 2-6 Panning

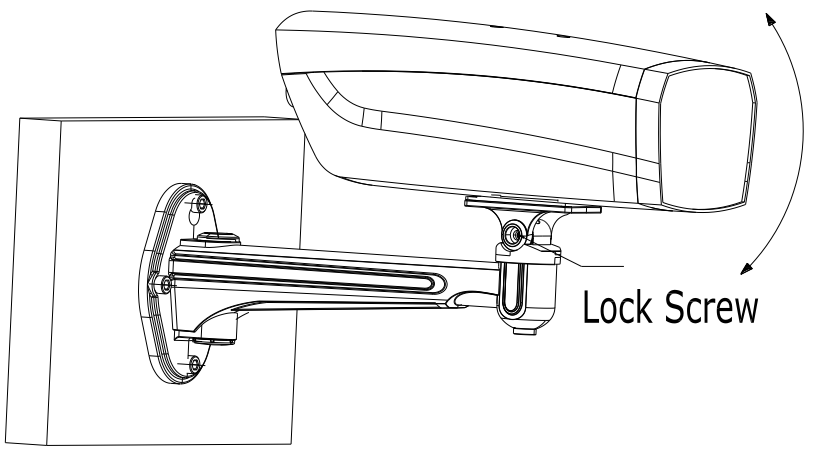


Figure 2-7 Tilting

10. After wiring the camera properly, display the live view of the camera using a monitor.
11. Move the zoom lever between T (Telephoto) and W (Wide angle) to obtain the appropriate angle of view.
12. Move the focus lever between F (Far) and N (Near) to obtain the optimum focus.

2.2 Wiring

- Please make sure that the power adapter can match with that of the camera.
- For the transmission distance of DC power is limited, please plug the power adapter not too far away.
- The power supply of camera models with no –A or –C suffix is 12V DC. The power supply of camera models with suffix –A is 12V DC or 24V AC. The power supply of camera models with suffix –C is 100~240V AC (Please refer to technical specifications for more details).

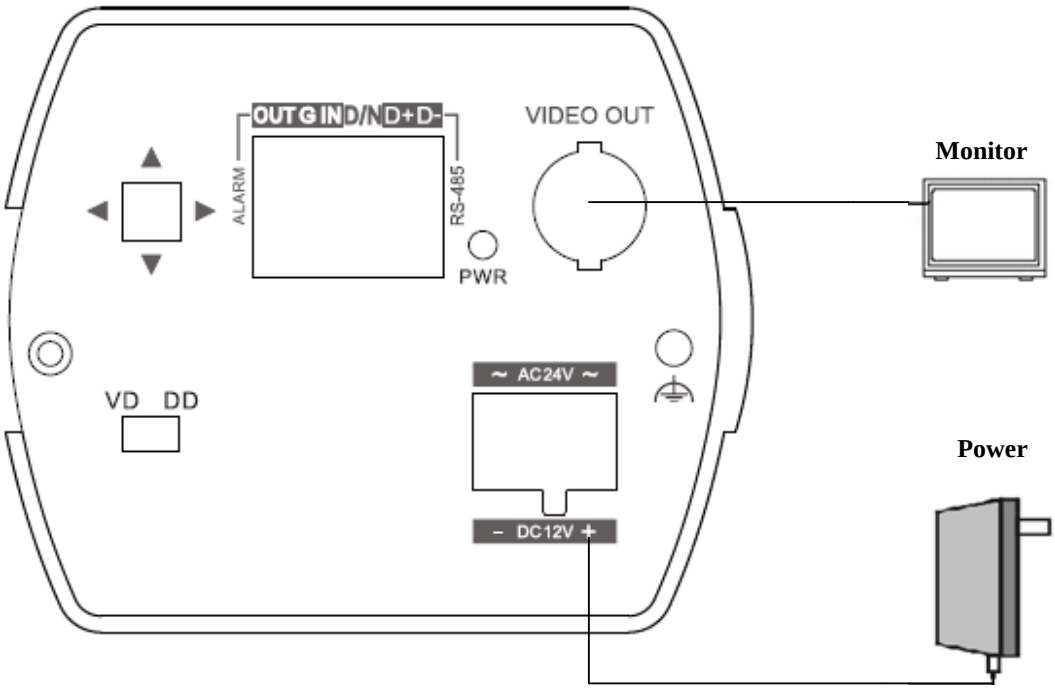


Figure 2-8 Wiring

3 Menu Operations

3.1 Menu Description (A)

Note: The menu described in this chapter is applicable to DS-2CC1181/1191/11A1P(N)(-A).

3.1.1 Menu Overview

This series of camera supports OSD menu operation. The menu is listed below:

Table 3-1 Menu Tree

Main Menu	**LENS**	AUTO, MANUAL
	SHUTTER/AGC	SHUT+AUTO IRIS, AUTO IRIS, SHUT+AGC, SHUT
	WHITE BAL	ATW, PUSH, PUSH LOCK, USER1/USER2, ANTI CR, MANUAL
	BACKLIGHT	BLC,HLC
	PICT ADJUST	MIRROR, BRIGHTNESS, CONTRAST, SHARPNESS, HUE, GAIN
	ATR	LUMINANCE, CONTRAST
	MOTION DET	DETECT SENSE, BLOCK DISP, MONITOR AREA, AREA SEL

	PRIVACY	AREA SEL, COLOR, TRANSP, MOSAIC
	DAY/NIGHT	AUTO, COLOR, B/W, EXT1, EXT2
	NR	Y LEVEL
	CAMERA ID	
	SYNC	INT , LINELOCK
	LANGUAGE	English/Chinese/Japanese/ French/Russian/Portuguese /Spanish/German
	CAMERA RESET	
	DPC	
	EXIT/SAVE ALL	

Note: You can use the menu button on the rear panel to operate the OSD menu.

3.1.2 Lens Settings

Move the cursor to LENS, and then set the menu button left/right to select MANUAL or AUTO.

- Selecting MANUAL mode, you have to adjust the LENS IRIS manually.
- Selecting AUTO mode, press the menu button to enter the AUTO IRIS submenu.

Notes:

- ☐ The image brightness is controlled by the iris, shutter and speed together.

- In auto mode, if the luminance level of the scene is high, the camera mainly adjusts the iris and shutter to get the proper brightness. If the luminance level of the scene is low, the camera mainly adjusts the AGC level to get the proper brightness.
- You can configure iris parameters in this menu. To configure the shutter and AGC parameters, please refer to the section ***3.1.3 shutter/AGC setting***.

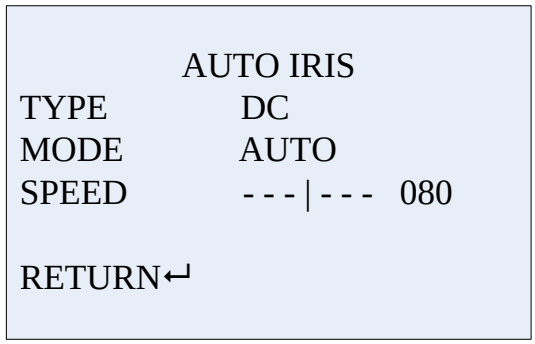


Figure 3-1 AUTO IRIS

AUTO IRIS function can automatically adjust the size of iris according to the light condition.

TYPE The type is **DC**. For more details about auto iris mode, please refer to section ***1.2 Overview***.

MODE Choose the iris mode. **AUTO**, **OPEN** and **CLOSE** are selectable.

In **AUTO** mode, the iris is adjusted automatically according to the light condition.

In **OPEN** mode, the iris size is adjusted to the maximum value.

In **CLOSE** mode, the iris is closed.

SPEED Adjust the auto iris speed. The value is higher, the iris speed is faster. The value ranges from 0 to 255.

Note: It's recommended that you adjust the iris speed only when the iris vibrates.

3.1.3 Shutter/AGC Setting

You can choose **MANUAL** and **AUTO** mode for the shutter and AGC.

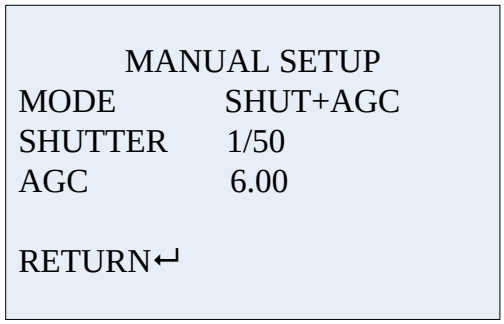


Figure 3-2 MANUAL SETUP

In the **MANUAL SETUP** submenu, you can manually adjust the **SHUTTER** speed and **AGC** value to maintain the brightness level of the camera.

SHUTTER Manually set the shutter speed. 1/50, 1/120, 1/250, 1/500, 1/1k, 1/2k, 1/4k,

and 1/10k are selectable for PAL standard. 1/60, 1/100, 1/250, 1/500, 1/1k, 1/4k, and 1/10k are selectable for NTSC standard.

AGC The AGC value can be set between 6 and 44.8.

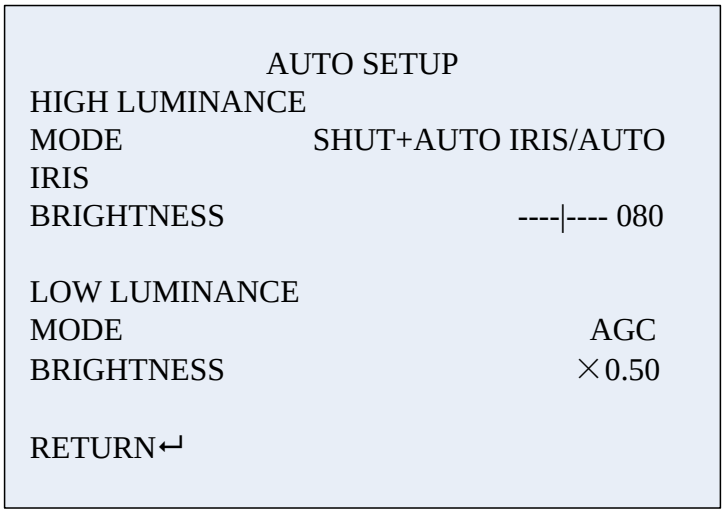


Figure 3-3 AUTO SETUP

In the **AUTO SETUP** submenu (Figure 3-3), you can set the auto **MODE** and adjust the **BRIGHTNESS** value. The system will automatically adjust the **SHUTTER**, **AGC** and **AUTO IRIS** values according to the **BRIGHTNESS** value.

In **HIGH LUMINANCE** condition, to get the proper image brightness, the **SHUTTER** speed and **AUTO IRIS** level is modified automatically according to the **BRIGHTNESS** value.

MODE	If you set the mode to **SHUT+AUTO IRIS**, the **SHUTTER** and **AUTO IRIS** values are adjusted together to get the proper image brightness. If you set the mode to **AUTO IRIS**, only the **AUTO IRIS** value is adjusted to get the proper image brightness. ***Note:*** When the **LENS** type is **MANUAL**, you can set the **MODE** to **SHUT** only. Only the **SHUTTER** value is adjusted automatically to get the proper image brightness.
BRIGHTNESS	The value ranges from 0 to 255.

In **LOW LUMINANCE** condition, to get the proper image brightness, the **AGC** is adjusted automatically according to the **BRIGHTNESS** value.

MODE	Only **AGC** is available.
BRIGHTNESS	×1.00, ×0.75, ×0.50 and ×0.25 are selectable.

3.1.4 White Balance Setting

Move the cursor to the **White Balance**, and select **ATW**, **PUSH**, **PUSH LOCK**, **USER1**, **USER2**, **ANTI CR** or **MANUAL** by setting the joystick left/right.

- **ATW(Auto Tracking White Balance)**

In ATW mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene.

SPEED	The speed can be set from 0 to 255. It is the adjusting speed of the white balance.
DELAY CNT	It's the response time when the color temperature changes.
ATW FRAME	The Auto Tracking White Balance function takes effect in a certain image frame. The size of image fame is adjustable.
ENVIRONMENT	**INDOOR** and **OUTDOOR** are selectable.

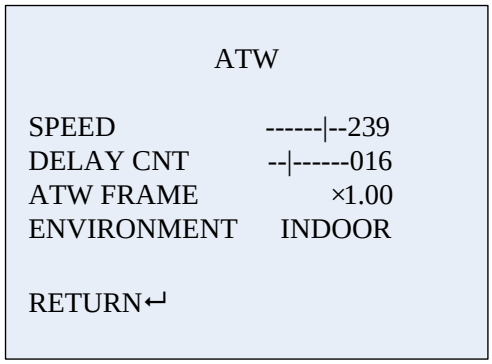


Figure 3-4 ATW

- **USER 1/USER2**

USER 1 mode is mainly for the indoor environment. B-Gain and R-Gain values are adjustable.

USER 2 mode is mainly for the fluorescent light environment. B-Gain and R-Gain values are adjustable.

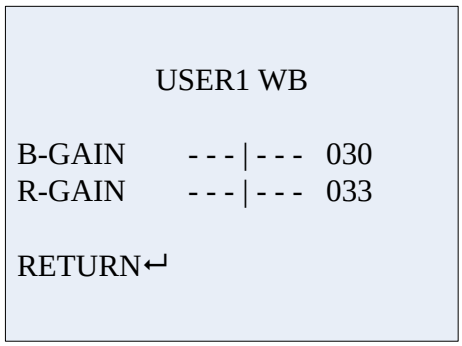


Figure 3-5 USER 1 WB

- **MANUAL**

In **MANUAL WB** submenu, you can customize the color temperature by adjusting the **LEVEL** value manually. The value ranges from 0 to 255.

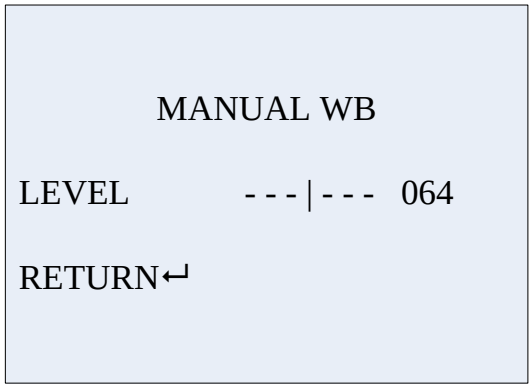


Figure 3-6 MANUAL WB

- **PUSH**

Selecting the **PUSH** mode, the viewed image gets color balance automatically. The color balance changes according to the color temperature.

- **PUSH LOCK**

Selecting the **PUSH LOCK** mode and pressing the menu button, the viewed image gets color balance automatically according to the current color temperature of the scene. The color balance value doesn't change when the color temperature of environment changes. This mode is suitable for the environment where the color temperature changes slightly.

- **ANTI CR (Anti Color Rolling)**

Selecting this mode, the system suppresses the color rolling and gets the color balance simultaneously under the fluorescent light environment.

3.1.5 Backlight Setting

This menu allows you to compensate light for certain position of the image. There are **OFF**, **BLC** and **HLC** selectable.

- **BLC(Backlight Compensation)**

If there's a strong backlight, the object in front of the backlight appears silhouetted or dark. **BLC** can correct the exposure of the subject. But the backlight environment is overexposed.

- **HLC(Highlight Compensation)**

HLC masks strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

3.1.6 Picture Adjust Setting

Move the cursor to **PICT ADJUST**. Press the menu button to enter the **PICT ADJUST** submenu. **MIRROR**, **BRIGHTNESS**, **CONTRAST**, **SHARPNESS**, **HUE**, and **GAIN** are adjustable.

- **MIRROR**

If you turn the **MIRROR** function on, the image will be flipped horizontally. It is like the image in the mirror.

- **BRIGHTNESS**

The brightness is adjustable from 0 to 255.

- **CONTRAST**

This feature enhances the difference in color and light between parts of an image. The value ranges from 0 to 255.

- **SHARPNESS**

SHARPNESS describes the clarity of detail in the image. The value ranges from 0 to 255.

- **HUE**

Adjust this feature to change the color of the image. The value ranges from 0 to 255.

- **GAIN**

Adjust this feature to change the depth of the color. The value ranges from 0 to 255.

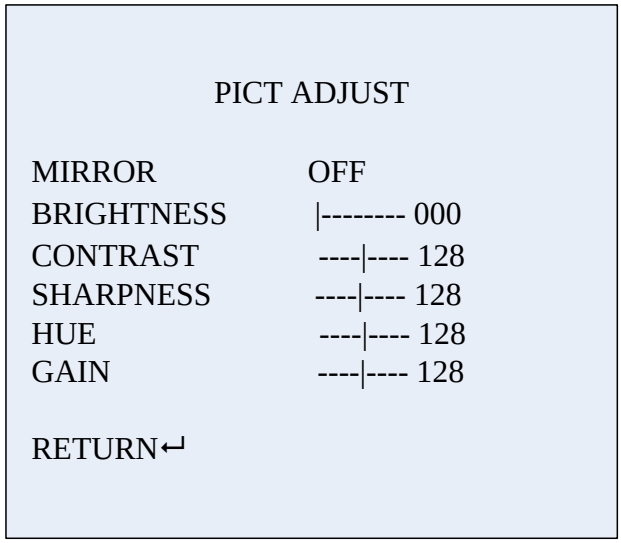


Figure 3-7 PICT ADJUST

3.1.7 ATR Setting

ATR is the digital dynamic range function which can adjust the brightness and contrast level of the image, and balance the brightness level of the whole image.

Move the cursor to **ATR**. Set the menu button left/right to select **ON** or **OFF**. After selecting **ON**, press the menu button to enter the **ATR** submenu.

LUMINANCE There are MID, HIGH, LOW selectable, standing for middle, high and low luminance respectively.

CONTRAST There are MID, HIGH, LOW, MIDLOW and MIDHIGH selectable.

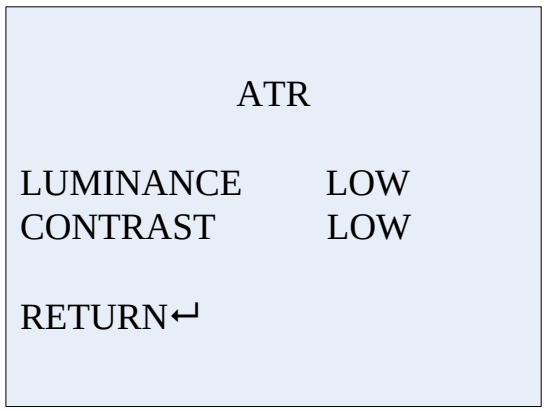


Figure 3-8 ATR

3.1.8 Motion Detection Setting

There are two kinds of **MOTION DET** panes, **BLOCKDISP** and **MONITOR AREA**. Two panes can take effect simultaneously.

BLOCK DISP

Steps:

1. Move the cursor to **MOTION DET**, and select **ON** and press the menu button to enter the submenu.
2. Position the cursor on **DETECT SENSE**, and set the menu button left/right to adjust the sensitivity level.
3. Position the cursor on **BLOCK DISP**, and set the menu button left/right to select **ENABLE**.
4. Press the menu button to enter the setup interface of the detection panes.
5. You can press the menu button once to cancel a pane. Press on the pane again to enable the pane.
6. Long press the menu button to back to the previous menu.
7. Select **ON** to enable **BLOCK DISP**.
8. Return to the **MAIN MENU** and click **SAVE ALL**.
9. You can find the **BLOCK DISP** take effect after you exit the main menu.

MONITOR AREA

Steps:

1. Move the cursor to **MOTION DET**, select **ON** and press the menu button to enter the submenu.
2. Position the cursor on **DETECT SENSE,** and set the menu button left/right to adjust the sensitivity level.

3. Position the cursor on **MONITOR AREA**. Select **OFF** to disable area motion detection. Select **ON** to enable area motion detection.
4. Position the cursor on **AREA SEL** to select one area. There are four areas available.
5. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and position of the area is defined by these values. And after you set all this value, you can see a frame on the image.
6. Return to the **MAIN MENU** and click **SAVE ALL**.
7. You can find the **MONITOR AREA** frame take effect after you exit the main menu.

Note: The **MONITOR AREA** frame takes effect only when there are **BLOCK DISP** panes in the **MONITOR AREA** frame.

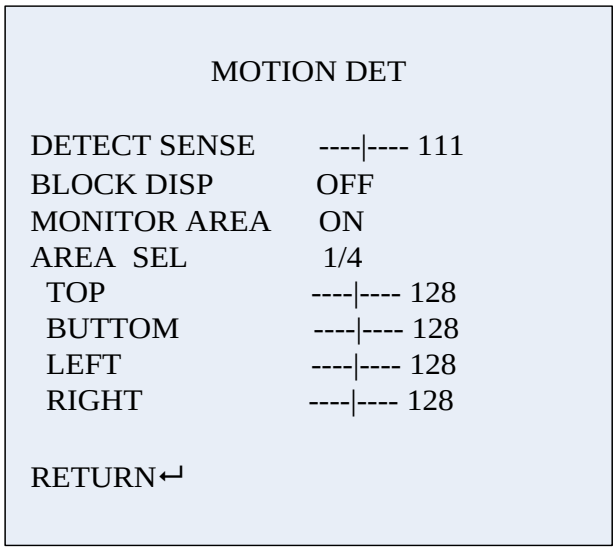


Figure 3-9 MOTION DET

3.1.9 Privacy Mask Setting

This feature allows you to cover certain areas which you don't want them to be viewed or recorded.

Steps:

1. Move the cursor to **PRIVACY**, and press the menu button to enter the **PRIVACY** submenu.
2. Select one privacy area in **AREA SEL**.
3. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and the position of the area can be defined by these values.
4. Select the color and the transparency values for the privacy area. Turn the **MOSAIC** on if you want to mosaic the privacy areas.
5. Repeat the steps 1 to step 4 to configure other privacy areas.

AREA SEL	There are 8 areas available.
COLOR	There are 8 colors available.
TRANSP	The available values are 1.00, 0.75, 0.50, and 0.00.

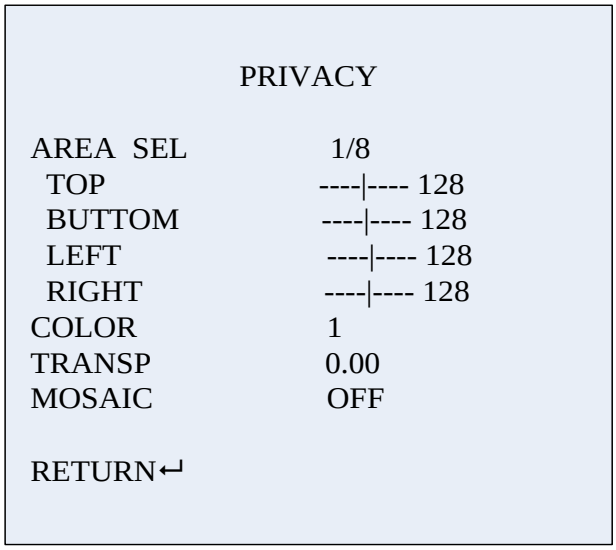


Figure 3-10 PRIVACY

Note: When the motion detection is on, up to 4 privacy areas are configurable.

3.1.10 Day/Night Setting

You can set the **DAY/NIGHT** mode to **AUTO**, **COLOR**, **B/W**, **EXT1** or **EXT2**.

COLOR mode is used for normal lighting conditions.

B/W mode can increase the sensitivity in low light conditions.

AUTO Mode Setting

In **AUTO** mode, the day mode and the night mode can switch automatically.

Steps:

1. After moving the cursor to **DAY/NIGHT**, set the menu button left/right to select **AUTO**.
2. Press the menu button to enter the submenu.

BURST	Select **ON** or **OFF** to enable or disable this feature.
DELAYCNT	The value ranges from 0 to 255. This value is the duration before the day/night mode switches.
DAY→NIGHT	The value ranges from 0 to 255. The day mode switches to the night mode when the light condition reaches to the value you select.
NIGHT→DAY	The value ranges from 0 to 255. The night mode switches to the day mode when the light condition reaches to the value you select.

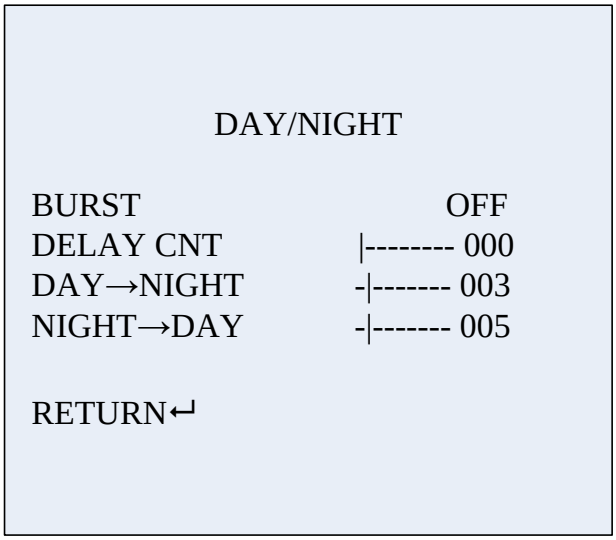


Figure 3-11 DAY/NIGHT

B/W Mode Setting

In the **B/W** submenu, you can enable or disable the **BURST**.

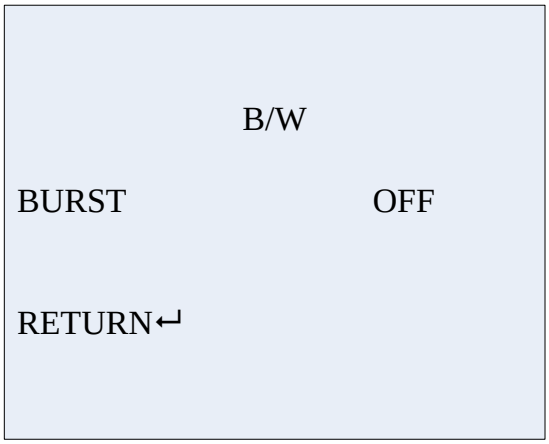


Figure 3-12 B/W

EXT1/EXT2 Mode Setting

When you select EXT1 or EXT2 mode, you can use photo-resistor to switch the day/night mode externally.

3.1.11 NR Setting

Noise Reduction is used to reduce the noise in the video signal.

Move the cursor to **NR**, and press the menu button to enter the **NR** submenu.

Y LEVEL The value ranges from 0 to 15.

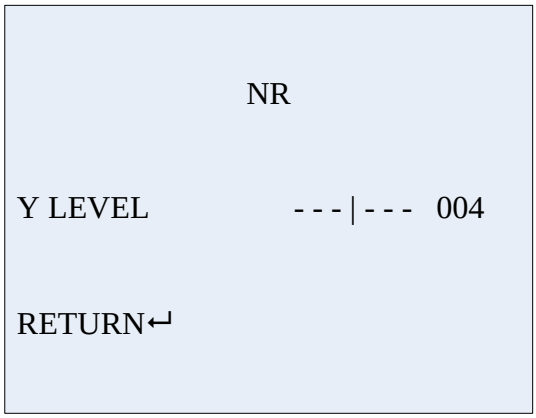


Figure 3-13 NR

3.1.12 Camera ID Setting

From **Camera ID** submenu, you can customize the camera ID. It also allows you to adjust the camera ID position on the monitor screen. This series of camera supports up to 52 characters.

- Select OFF to disable the Camera ID.
- Select ON to enable the Camera ID.

Customizing the camera ID

Steps:

1. Set it to **ON**, and press the menu button to enter the submenu.
2. Set the menu button up/down/left/right to position the cursor on the character you want.

Note: The characters include letters, numbers and symbols.

3. Press menu button to confirm your selection. The selected character displays under the **CAMERA ID** and above the characters.
4. Repeat the steps 1 through 3 to select other characters.

Modifying the camera ID

Steps:

1. Position the cursor on one of the arrows←→↑↓.
2. Press the menu button to position the cursor on the character that needs to be modified.
3. Select one of the other characters to replace it.

Clearing the camera ID

Steps:

1. Position the cursor on **CLR**.
2. Press the menu button to clear the characters.

Positioning the camera ID

Steps:

1. Move the cursor to **POS**, and press the menu button to enter the position setting interface.
2. Set the menu button up/down/left/right to position the camera ID.
3. Press the menu button to save the position and exit.

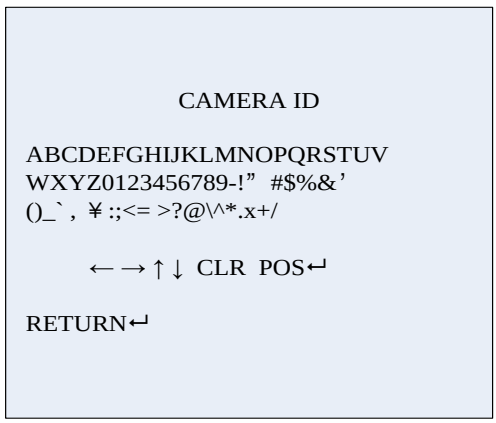


Figure 3-14 CAMERA ID

3.1.13 SYNC Setting

Both internal and line lock synchronization are available.

Note: Only the camera which supports both DC 12 V and AC 24 V has line lock synchronization.

- If 12V DC power supply is applied, **SYNC** mode is internal synchronization and it is not adjustable.
- If 24V AC power supply is applied, you can select either internal or line lock synchronization.

  Note: Internal synchronization is the default SYNC mode. Exit the main menu and in the live view mode, set the menu button to right for about 2 seconds, you can switch the SYNC mode to line-lock mode. Perform the same operation to switch it to internal synchronization from the line-lock.

3.1.14 Language Setting

You can adjust the language of the on-screen menu. The factory default language is English.

Steps:

1. Move the cursor to **LANGUAGE**.
2. Set the menu button left/right to select the language you need.

3.1.15 Camera Reset Setting

Move the cursor to **CAMERA RESET**, and press the menu button to reset all camera settings to the default.

3.1.16 Defective Pixel Correct Setting

Exit the main menu and in the live view interface, set the menu button to left for about 2 seconds to enable auto **DPC** function.

Note: This function is more active in the absolutely dark environment. Make sure that the IRIS of lens is closed before using this function.

3.1.17 RS-485 Setting

There is no menu item for setting the RS-485 parameters. If you need to configure the menu items remotely, you have to set the RS-485 parameters of control device the same as those of camera.

The default RS-485 parameters of camera are as follows:

Table 3-2 Default RS-485 Parameters

Parameter	Default value
Baudrate	4800
Address	001
Protocol	PELCO-D.

Note: Only the models with suffix '-A' support RS-485 functions.

3.1.18 Save All/Exit

Move the cursor to the **Exit**, and press the menu button to exit the settings without saving.

Move the cursor to **SAVE ALL**, and press menu button to save the settings and exit.

3.2 Menu Description (B)

Note: The menu described in this chapter is applicable to DS-2CC1183/1193/11A3/1185/1195/11A5/1187/1197/11A7/1188/1198/11A8P(N)-A(-C).

3.2.1 Menu Overview

This series of camera supports OSD. The menu tree is listed below:

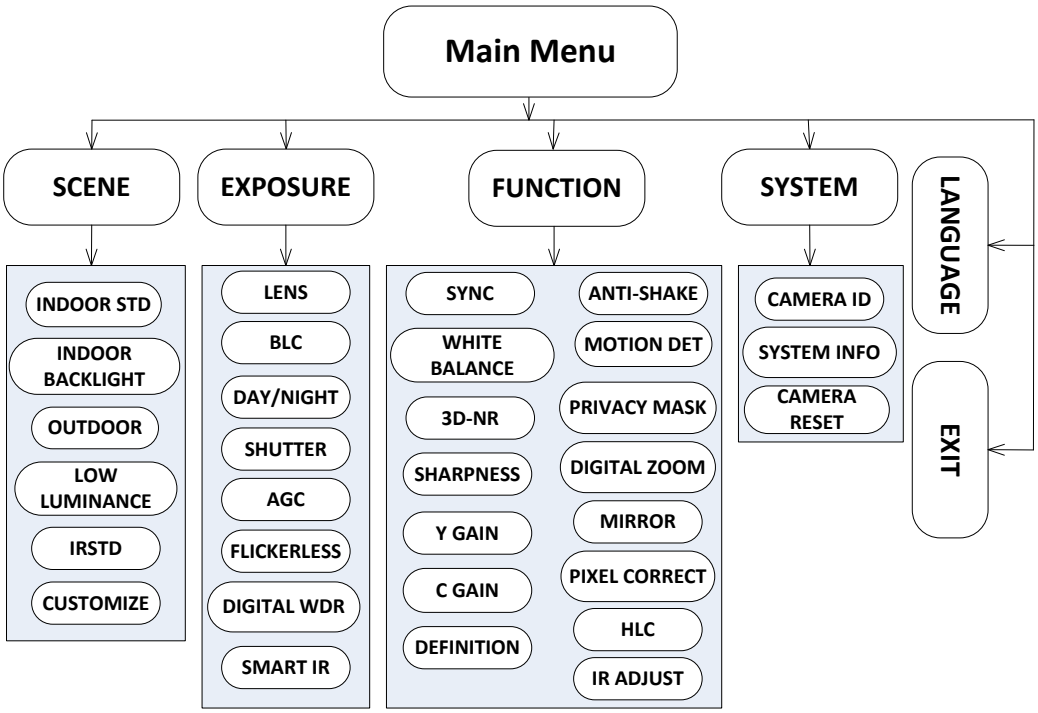


Figure 3-15 Menu Tree

Note: You can use the menu button on the rear panel to operate the OSD menu.

3.2.2 Scene

There are 6 scenes selectable: **INDOOR STD**, **INDOOR BACKLIGHT**, **OUTDOOR**, **LOW LUMINANCE, IRSTD** and **CUSTOMIZE**. You can select one of the scenes according to the application environment.

Under CUSTOMIZE mode, the scene parameters can be configured manually to get the best image quality when the monitoring conditions are complicated.

Notes:

- DS-2CC1187/1197/11A7P(N)-A(-C) don't support **IRSTD**.
- DS-2CC1188/1198/11A8P(N)-A(-C) support **INDOOR BACKLIGHT** or **OUTDOOR BACKLIGHT** only.

3.2.3 Exposure

LENS Setting (Iris/Shutter Mode Setting)

Purpose:

In this menu, you can set the modes of iris and shutter to adjust the brightness of image.

Steps:

1. Move the cursor to **LENS**, and press the menu button to enter the **LENS SETUP** menu.

2. Position the cursor on **LENS** in the **LENS SETUP** menu. **ELC**, **ALC**, and **ELC+ALC** are selectable.

   ☐ **ELC**

   If you choose **ELC**, the camera adjusts the electronic shutter value automatically according to the **VALUE** setting. The iris is opened to the maximum size. The shutter value in the **SHUTTER SETUP** menu is **AUTO**.

   ☐ **ALC**

   If you choose **ALC**, the camera adjusts the iris automatically according to the value setting. The electronic shutter value is a fixed value. The shutter value in the **SHUTTER SETUP** menu is adjustable.

   ☐ **ELC+ALC**

   If you choose **ELC+ALC**, according to the **VALUE** setting, the camera automatically adjusts the electronic shutter and the iris too. The electronic shutter value will be in the range from1/50s to the value you set in the **SHUTTER SETUP** menu.

3. Position the cursor on **VALUE**. Set the menu button left/right to choose a value. The value ranges from 0 to 15.
4. To adjust the difference in color and light between parts of the image, you can adjust the **CONTRAST** value. The value ranges from 0 to 15.
5. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

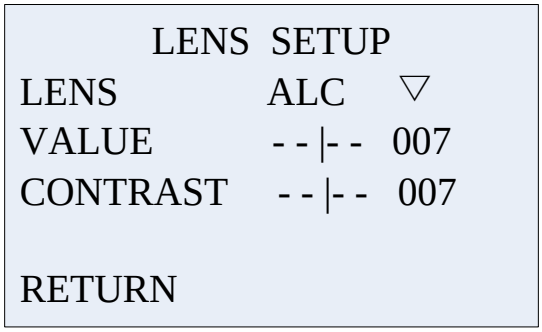


Figure 3-16 LENS SETUP

BLC/WDR/HLC Setting

(Back Light Compensation/Wide Dynamic Range/High Light Compensation)

Notes:

- ☐ Only DS-2CC1187/1197/11A7P(N)-A(-C) support WDR.
- ☐ Only DS-2CC1188/1198/11A8P(N)-A(-C) support HLC.

- **BACK LIGHT COMPENSATION**

Purpose:

If there's a strong backlight, the object in front of the backlight appears silhouetted or dark. BLC can correct the exposure of the subject. But the backlight environment is overexposed.

Steps:

1. Move the cursor to **BLC/WDR**, and press the menu button to enter the **BLC/WDR** menu.
2. Position the cursor on the **BLC**, and press the menu button to enter the **BLC** settings menu.

3. You can set the **AREA** and the brightness **VALUE** of **BLC** in this menu.
   - The **AREA** can be set to **UP**, **DOWN**, **LEFT**, **RIGHT**, **CENTER**, **CUSTOMIZE**. When you select **CUSTOMIZE**, the **SIZE** and **POSITION** menu items will display under the **AREA** item. You can adjust the size and position of the BLC area under customize mode.
   - The **VALUE** ranges from 0 to 15. The larger the value is, the brighter the object is in front of the backlight.
4. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

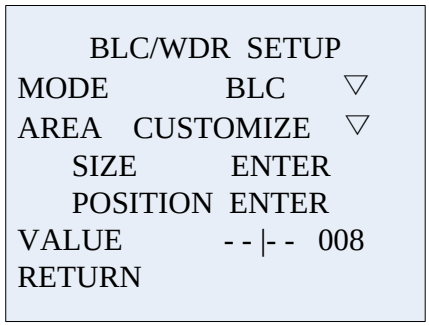


Figure 3-17 BLC SETUP

- **WIDE DYNAMIC RANGE**

Purpose:

The Wide Dynamic Range function combines a long time exposed image and a short time exposed image to get an image for both bright and dark areas to be visible.

Steps:

1. Move the cursor to **BLC/WDR**, and press the menu button to enter the **BLC/WDR** menu.
2. Position the cursor on the **WDR**, and press the menu button to enter the **WDR** settings menu.
3. You can set the **VALUE**, **CONTRAST** and **WD ADJUST** in this menu.
   - ☐ The **VALUE** ranges from 0 to 15. The value is larger, the exposure time is longer. The dark areas will be brighter in the image.
   - ☐ You can adjust the **CONTRAST** value after the setting of **WDR VALUE**.
   - ☐ If the effect of WDR is not obvious in the dark scene, you can turn on the **WD ADJUST** to enhance the WDR. But the noise in the image will be amplified too. Do not turn this function on in the normal scene.
4. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

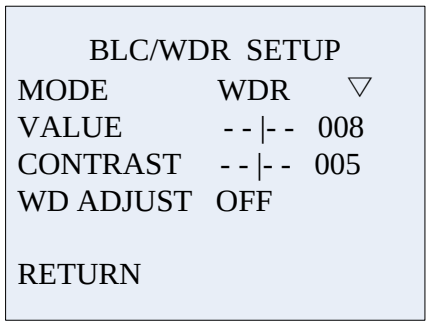


Figure 3-18 WDR SETUP

- **High Light Compensation**

Purpose:

HLC makes the camera identify and suppress the strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

Steps:

1. Move the cursor to **BLC/HLS** in the MAIN MENU.
2. Press the menu button to enter the **BLC/HLS SETUP** submenu.
3. Move the cursor to **MODE** and select **HLS**.
4. Adjust the **VALUE** to suppress the high light. The value ranges from 0 to 15.
5. Move the cursor to **RETURN**, and press the menu button to return to the previous menu.

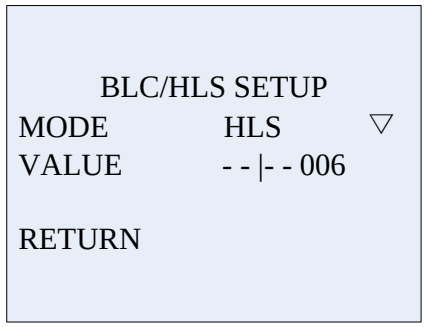


Figure 3-19 HLC

DAY/NIGHT Setting

Move the cursor to **DAY/NIGHT** and press menu button to enter the **DAY/NIGHT** edit mode. **DAY**, **NIGHT**, and **AUTO** mode are selectable.

Steps:

1. Move the cursor to **DAY/NIGHT**, press the menu button to enter the **DAY/NIGHT SETUP** menu.
2. Position the cursor on the **MODE**, press the menu button to choose a selection.
   - ☐ **DAY** mode is used for normal lighting conditions. The camera delivers color image.
   - ☐ **NIGHT** mode can increase the sensitivity in low light conditions. The camera delivers black and white image.
   - ☐ In **AUTO** mode, the day mode and the night mode can switch automatically.

   The following parameters display on the screen when you select the **AUTO** mode:
   - ○ **D→N(N→D) LEVEL**: The camera switches between the day and night mode according to this value.
   - ○ **D→N(N→D) DELAY**: The value can be set to 1s, 3s, 5s, 10s, 20s, 25s and 30s. This value is the duration before the day and night mode switches.

     Note: The **DAY** mode switches to the **NIGHT** mode automatically when the infrared LEDs are turned on.
3. Move the cursor to **RETURN**, press the menu button to return to the previous menu.

Note: When the **IR SWITCH** is on, the camera will be in the night mode for one hour if the day mode switches to night mode 5 times continuously in 10 minutes. One hour later, the camera detects the illumination of the environment, and switches to the day mode if the illumination reaches to the N→D LEVEL value.

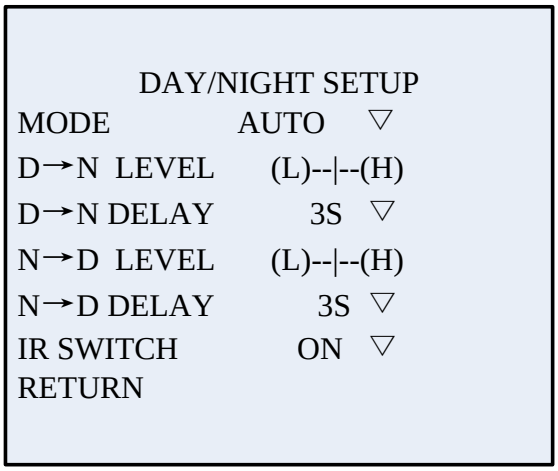


Figure 3-20 Day/Night

SHUTTER Setting

You can set the shutter speed in this menu. Shutter speed is the duration of the electronic shutter. It affects the brightness of the image.

Note: When the **LENS** mode is the **ELC**, the shutter mode is **AUTO** and not adjustable. When the **WDR** function is on, the shutter mode is not adjustable.

In the **SHUTTER SETUP** menu, the configurable menu items are **SHUTTER**, **SLOW SHUTTER** and **MOTION.**

- **SHUTTER**: You can set the shutter to OFF, 1/120, 1/175, 1/250, 1/500, 1/750, 1/1K, 1/2K, 1/4K, 1/10K and 1/100K.

  Note: the value varies depending on the different camera models.

- **SLOW SHUTTER**: The **SLOW SHUTTER** can be set to OFF, ×2, ×4, ×6, ×8, ×12, ×16, ×24, ×32, ×48, ×64, ×128, ×160, ×256, ×512. This function can be used in underexposure condition.

- **MOTION**: You can set the **MOTION** values according to the speed of the moving objects in the scene. This can reduce the streaking of the fast moving objects.
  - If the speed of the moving objects is low, you can choose **SLOWER** and **SLOW**.
  - If the speed of the moving objects is normal, you can choose **NORM**.
  - If the speed of the moving objects is high, you can choose **FAST** and **FASTER**.

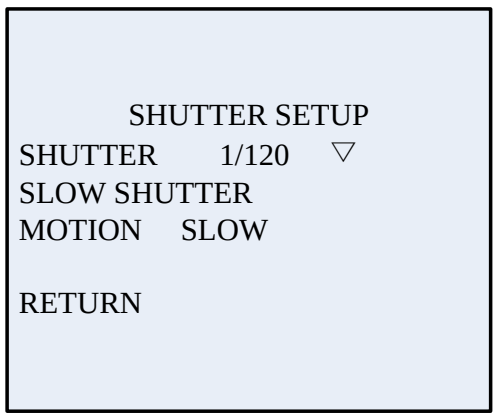


Figure 3-21 SHUTTER SETUP

AGC (Auto Gain Control)

When the light of the scene decreases to a certain value, the AGC function will take effect to adjust the brightness of the image. The **AGC** function can be set to **OFF**, **HIGH**, **MID** or **LOW**.

FLICKERLESS

This function can avoid the image flicker. Move the cursor to **FLICKERLESS**, and press the menu button to set it ON or OFF. This function is used for PAL standard camera under 60Hz light source, and NTSC standard camera under 50Hz.

Digital WDR Setting

Note: DS-2CC1187/1197/11A7P(N)-A(-C) don't support Digital Wide Dynamic Range.

Purpose:

The video effects of the Digital Wide Dynamic Range function are similar to that of Wide Dynamic Range function.

Steps:

1. Move the cursor to **DIGITAL WDR**, press the menu button to enter the **DIGITAL WDR** menu.
2. You can set the **VALUE** and **CONTRAST** values in this menu.
   - The **VALUE** ranges from 0 to 15. The larger the value is, the longer the long exposure time is. The dark areas will be brighter in the image.
   - You can adjust the **CONTRAST** value after the setting of **VALUE**. The **CONTRAST** value ranges from 0 to 15.

3. Move the cursor to **RETURN**, press the menu button to return to the previous menu.

Note: The back light compensation is disabled when the digital WDR is enabled. The digital WDR is disabled when the back light compensation is enabled.

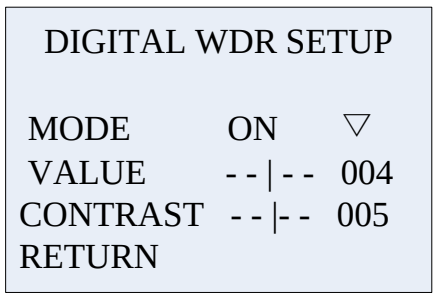


Figure 3-22 Digital WDR SETUP

SMART IR Setting

Note: DS-2CC1188/1198/11A8P(N)-A(-C) don't support **SMART IR** function.

This function reduces the entire brightness of the image for adjusting the overexposure in the center of the image. The SMART IR value ranges from 0 to 7.

3.2.4 Funtion

- **SYNC**

Both internal and line lock synchronization are available. (Only the camera which supports 12V DC and 24V AC power has line lock synchronization.)

- If 12V DC power supply is applied, SYNC mode is internal synchronization and not adjustable.
- If 24V AC power supply is applied, you can select either internal or line lock synchronization.

- **WHITE BALANCE**

This feature processes the viewed image to retain color balance over a color temperature range and remove the unrealistic color casts. The **WHITE BALANCE** mode can be set to **ATW1**, **ATW2**, **ATC**, and **MANUAL**.

- **ATW1**: The Auto Tracking White Balance. In the ATW mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination. The color temperature range of the ATW1 mode is from 2500K to 9500K.
- **ATW2**: The Auto Tracking White Balance. In the ATW mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination. The color temperature range of the ATW2 mode is from 2200K to 15000K.
- **ATC**: Select ATC mode, the camera retains color balance automatically according to the current color temperature. If the lighting environment is changed, you have to readjust the settings accordingly.
- **MANUAL**: You can adjust the color temperature manually to meet your own demand.

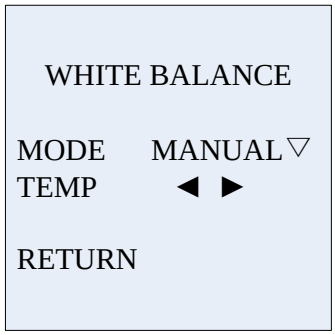


Figure 3-23 MANUAL WHITE BALANCE

- **3D-NR**

Three Dimensional Digital Noise Reduction

You can turn this function on to reduce the noise in the image. The reduce value ranges from 0 to 7.

- **SHARPNESS**

SHARPNESS enhances the detail of the image by sharpening the edges in the image. The value ranges from 0 to 15.

- **Y GAIN**

This feature is used to adjust brightness of the image. The value ranges from 0 to 7.

- **C GAIN**

This feature is used to adjust color saturation of the image. The value ranges from 0 to 7.

- **DEFINITION**

DEFINITION describes the clarity of detail in the image. The value ranges from 0 to 7.

- **ANTI-SHAKE**

Turning the **ANTI-SHAKE** function on may reduce the image vibration caused by external environment.

Note: When the **ANTI-SHAKE** function is enabled, the **MOTION DET** function is disabled.

- **MOTION DET**

Steps:

1. Move the cursor to **MOTION DET**, and press the menu button to enter the submenu.
2. Move the cursor to **MODE**, and press the menu button to select **OFF** or **ON** to disable or enable the function.

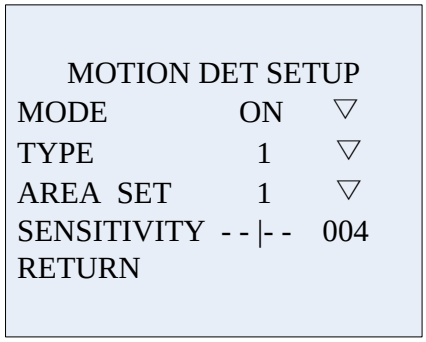


Figure 3-24 Motion Detection

3. Position the cursor on the **TYPE**, press the menu button to choose a type. There are three types.
   - **TYPE1**: You can set 4 adjustable windows for the area of the motion detection in type1 mode. The size and position of the windows can be adjusted in the submenu of **AREA SET**.
   - **TYPE2**: The area of the motion detection is the full screen in type2 mode. The **AREA SET** is not adjustable.
   - **TYPE3**: The area of the motion detection is 12 × 8 windows on full screen. You can press the menu button to cancel or select a window in the **AREA SET** submenu.

4. Position the cursor on the **SENSITIVITY**. You can set the sensitivity level of the motion detection. The value ranges from 0 to 7.
5. Move the cursor to **RETURN**, press the menu button to return to the previous menu.

- **PRIVACY MASK**

This feature allows you to set 12 areas which cannot be viewed by the operator of the system. The size, position and color of the areas are adjustable.

Steps:

1. Move the cursor to **PRIVACY MASK**, press the menu button to select **ON**.
2. Position the cursor on the **AREA SEL**, press the menu button to choose a mask area. There are twelve areas selectable.
3. Move the cursor on **ON/OFF** and enter the submenu to turn on this mask area.
4. Move the cursor on **POSITION.** Press the menu button to enter the position and size setting interface.
    1). Press the menu button to position the cursor on the mask area.
    2). Set the menu button left/right/up/down to adjust the position and size of the area.
    3). Press the menu button five times to exit the position and size setting interface.

5. Move the cursor on **COLOR** to select the color you want**.** There are eight colors available.
6. Turn the **MOSAIC** on, if you want a mosaic mask area.
7. Move the cursor to **RETURN**, press the menu button to return to the previous menu.

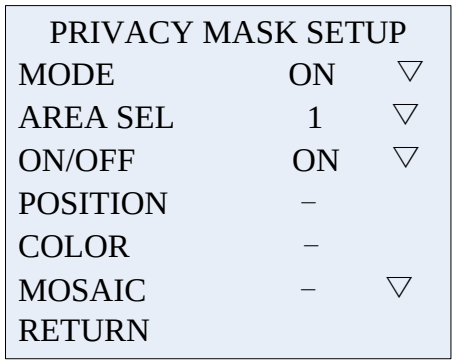


Figure 3-25 PRIVACY MASK SETUP

- **DIGITAL ZOOM**

The **DIGITAL ZOOM RATIO** can be set to OFF, x2, x4, x8 and x16.

Steps:

1. Move the cursor to **DIGITAL ZOOM**, press the menu button to enter the submenu of **DIGITAL ZOOM RATIO**.
2. Position the cursor on the zoom value you want and press the menu button to enter the submenu.
3. Move the cursor on the **POSITION**, press the menu button. Then you can set the menu button left/right/up/down to adjust the position of the image.

Note: The **DIGITAL ZOOM** is disabled when the **ANTI-SHAKE** function is **ON**.

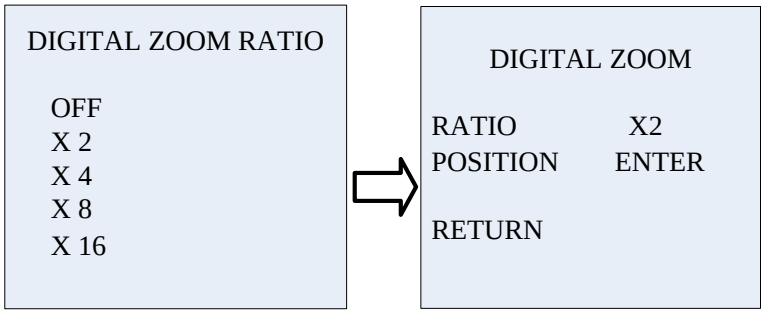


Figure 3-26 DIGITAL ZOOM SETUP

- **MIRROR**

If you turn the **MIRROR** function on, the image will be flipped. It is like the image in the mirror. The flip direction can be set to OFF, H-FLIP, V-FLIP or CENTER.

- **PIXEL CORRECT**

There might be defect pixels in the Charge Coupled Device (CCD) after a long time use. You can use **PIXEL CORRECT** function to correct the defect pixels.

Move the cursor to **PIXEL CORRECT**, press the menu button. The **PIXEL CORRECTING...** words will be displayed on the screen. After the pixel correcting, the **FUNC** menu displays on the screen.

Note: This function will be more active in the absolutely dark environment. Make sure that the IRIS of the lens is closed before using this function.

- **Eclipse**

Eclipse masks strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden. The **VAULE** ranges from 0 to 7. The value is larger, the mask is darker.

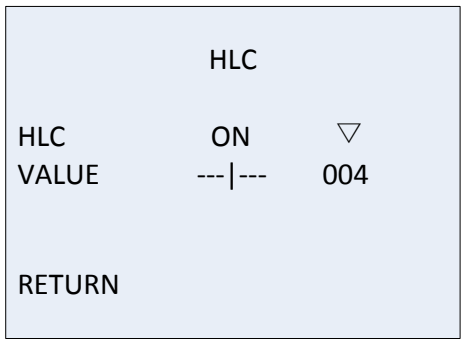


Figure 3-27 Eclipse

- **IRIS ADJUST**

You can adjust the zoom speed of the iris in this menu. There are two modes to adjust the speed.

- **AUTO** mode: Select the **AUTO** mode and aim the camera at the high light scene. The camera adjusts the speed automatically.
- **MANUAL** mode: Select the **MANUAL** mode. Adjust the **DAMP** value to set the speed of the iris. The value ranges from 0 to 15. The value is larger, the speed is slower.

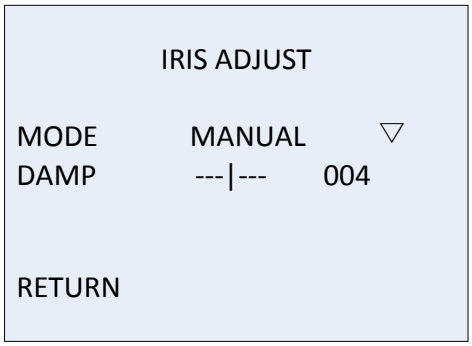


Figure 3-28 IRIS ADJUSTING

3.2.5 System

- **CAMERA ID**

In the **CAMERA ID** submenu, you can customize the camera ID. It also allows you to adjust the camera ID position on the screen of the monitor.

- ☐ Select **OFF**, if you want to disable the Camera ID.
- ☐ Select **ON**, if you want to enable the Camera ID.

Customizing the camera ID

Steps:

1. After selecting ON, press the menu button to enter the submenu.
2. Set the menu button up/down/left/right to position the cursor on the character you want.

Note: The characters include letters, numbers and symbols.

3. Press the menu button to enter your selection. The selected character displays under the **CAMERA ID** and above the characters.
4. Repeat the steps 1 through 3 to select other characters.

Modifying the camera ID

Steps:

1. Position the cursor on one of the arrows ←→.
2. Press the menu button to position the cursor on the character that needs to modify.
3. Select one of the other characters to replace it.

Clearing the camera ID

Steps:

1. Position the cursor on **CLR**.
2. Press the menu button to clear the characters.

Positioning the camera ID

Steps:

1. After moving the cursor to **POS**, press the menu button to enter the position setting interface.
2. Set the menu button up/down/left/right to position the camera ID.
3. Press the menu button to save the position and exit.

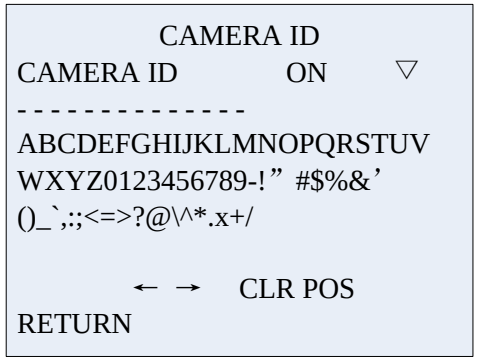


Figure 3-29 CAMERA ID

- **RS-485 Setting**

If you need to configure the menu items remotely, you have to set the RS-485 parameters of control device the same as those of camera. The default address is 0, protocol is PELCO-D, and baudrate is 9600.

Steps:

1. Move cursor to **RS485 SET** in the main menu.
2. Press the menu button to display the RS-485 setting menu on the screen.

   ☐ **ADDRESS**

   The address ranges from 0 to 254.

   ☐ **PROTOCOL**

   PELCO-P and PELCO-D are selectable.

   ☐ **BAUDRATE**

   You can set the baudrate to 1200, 2400, 4800, 9600, 19200 or 115200(bps).

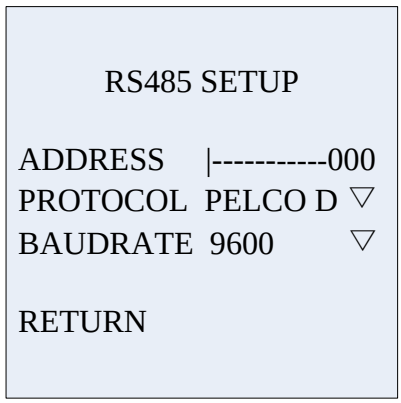


Figure 3-30 RS485 SETUP

- **SYSTEM INFO**

SYSTEM INFO menu displays the hardware, software and DSP version. This information cannot be changed in this menu. It is the reference for maintenance or modification in the future.

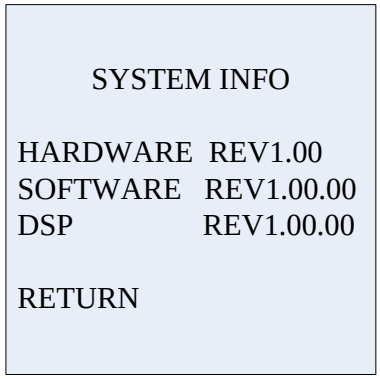


Figure 3-31 System Information

- **CAMERA RESET**

Steps:

1. Move the cursor to **CAMERA RESET**, press the menu button to enter the submenu.
2. Position the cursor on **ENTER**, press the menu button to reset the parameters of the camera to the factory settings. Or position the cursor on **CANCEL**, press the menu button to return to the previous menu.
3. Move the cursor to **RETURN** and press the menu button to return to the previous menu.

3.2.6 Language

Steps:

1. Move the cursor to **LANGUAGE**, press the menu button to enter the submenu.
2. Select the language you need.
3. Move the cursor to **RETURN** and press the menu button to return to the previous menu.

3.2.7 Exit

Purpose:

EXIT is used for saving or canceling the settings.

Steps:

1. Move the cursor to **EXIT**, press the menu button to enter the submenu.
2. Set the menu button left/right to choose an option.
   - **SAVE ALL**: Select **SAVE ALL** and press the menu button to save all the settings.

- **CANCEL**: Select **CANCEL** and press the menu button to cancel all the settings.

3. Position the cursor on **RETURN**, press the menu button to return to the submenu.

Appendix

1 Glossary

Note: The glossary gives brief explanations to the basic operation principle or the basic function of the camera. However, it doesn't mean the listed functions are all supported by the cameras mentioned in this manual. Please take the function in the corresponding specification as the standard.

Definition:

Definition is the degree to distinguish the edge between two parts.

Contrast:

Contrast is the color difference between the brightest and darkest parts.

Saturation:

Saturation is the degree of color purity. The color is purer, the image is brighter.

DAY/NIGHT Auto Switch:

The cameras deliver color images during the day. And as light diminishes at night, the cameras switch to night mode and deliver black and white images with high quality.

AGC:

AGC is a control circuit that automatically changes the gain of a receiver or other pieces of equipment, so that the desired output signal remains essentially. When under low illumination, AGC will regulate the gain and amplification of the video signal.

S/N ratio:

It is the ratio of Signal voltage to noise voltage. The ratio is larger, the effect of noise is less, and the image is clearer.

White Balance:

White balance can remove the unrealistic color casts. White balance is the white rendition function of the camera to adjust the color temperature according to the environment automatically.

BLC:

If you focus on an object against strong backlight, the object will be too dark to be seen clearly. The BLC (Backlight Compensation) function can compensate light to the object in the front to make it clear, but this causes the over-exposure of the background where the light is strong.

SMART IR:

The SMART IR adopts the smart image processing technique to automatically adjust the brightness curve by detecting multi-zone brightness, and so as to prevent the over exposure of central point existed in short IR distance conditions.

Motion Detection:

In the user-defined motion detection surveillance area, the moving object can be detected and trigger alarm. The sensitive level can be customized according to the environment.

Privacy Mask:

This function allows you to block or mask certain area of a scene, thus prevent the personal privacy from recording or live viewing.

OSD (On Screen Display):

OSD is the texts superimposed on a screen. It can show the menu on the screen.

Synchronous System:

There are two modes for the camera synchronization. Internal synchronization is realized by the synchronous signal which is generated by the inside crystal oscillator.

ICR Auto Switch:

The filter will filter infrared light during the daytime and change to normal filter at night to ensure a high sensitivity and clear image.

WDR (Wide Dynamic Range):

The wide dynamic range (WDR) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.

EIS (Electronic Image Stabilization):

Electronic image stabilization function can reduce certain ranges of vibration which is caused by the external environment.

3D Digital Noise Reduction:

Comparing with the general 2D digital noise reduction, the 3D digital noise reduction function processes the noise between two frames besides processing the noise in one frame. The noise will be much less and the video will be clearer.

HLC (High Light Compensation):

HLC makes the camera identify and suppress the strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

Digital Zoom:

Digital zoom helps to crop the entire image, and then digitally enlarge the size of a portion of image that is needed to zoom in on.

2 Troubleshooting

Problem 1:

Why does the camera restart intermittently? And the problem is much more serious when infrared lights of IR camera are turned on at night.

Possible Reasons:

The main and common reason is power supply shortage. This problem may happen to the IR camera especially at night, because the infrared lights are turned on at night and increase the power consumption.

To Solve the Problem:

You need to ensure that the power supply matches with ±10% of the nominal voltage. And the power consumption of power adapter should meet the demand of the camera.

Problem 2:

The camera can never be focused by adjusting the focus-stick on the lens. And there is also no use adjusting the back focus.

Possible Reasons:

The camera needs the lens with CS lens mount. When you install a lens with C lens mount, the camera will never focus.

To Solve the Problem:

You can change a lens with CS lens mount to the camera.

Or you can use a C/CS adapter ring between the camera and the lens with C lens mount.

Problem 3:

The camera is installed with an auto-iris lens. You adjust the focus to get a clear image in the daytime. But the image is defocused at night.

Possible Reasons:

In the daytime, the illumination is high, so the iris is adjusted to a small size automatically. The DOF (depth of field) is long. But at night, the iris is adjusted to a large size automatically, so the DOF is shortened. The focus you adjusted in the daytime now locates out of the DOF, so the image is defocused at night.

To Solve the Problem:

When you adjust the focus for a camera with an auto-iris lens, you need to set the lens type to AES (auto electronic shutter) mode. Under AES mode, the iris is adjusted to the largest size automatically. Then you can adjust the focus to get a clear image. At last, you need to set the lens type back to AI (auto iris) mode.

Or you can adjust the focus in low illumination condition, such as at night.

Problem 4:

A camera with OSD menu and an auto-iris lens displays black video. But the OSD menu can be called and displayed.

Possible Reasons:

Auto-iris lens connector is loose contact.

Or the iris driven mode of the camera does not match with the mode of auto-iris lens.

To Solve the Problem:

Check the auto-iris lens connector to ensure good contact.

Set the iris driven mode of the camera the same as that of lens. The modes can be VD (video drive) or DD (direct drive). DD mode is commonly used.

3 Technical Maintenance

Lens Maintenance

The lens surface is plated an anti-reflection coating. The dust, oil and finger print, etc. will cause scratch, mildewed and performance degraded. Please refer to the following method to clean the lens.

- Handling dust

Use oil free soft brush or blowing dust ball to clean the dust.

- Handling oil

Steps:

1. Wipe off the water-drop or oil by soft cloth and dry the lens.
2. Use oil free cotton cloth or lens clean paper to wipe the lens from center to outside with alcohol or detergent.
3. Change the cloth to wipe the lens until the lens is clean.

Bubble Maintenance of Domes

The bubble is of transparent plastic. The dust, oil and finger print, etc. will cause scratch or image blur. Please refer to the following method to clean the bubble.

- Handling dust

Use oil free soft brush or blowing dust ball to clean the dust.

- Handling oil

Steps:

1. Wipe off the water-drop or oil by soft cloth and dry the bubble.
2. Use oil free cotton cloth or bubble clean paper to wipe the bubble from center to outside with alcohol or detergent.

3. Change the cloth to wipe the bubble until the bubble is clean.

Glass Maintenance of IR Camera

Steps:

1. Wipe off the dust, water-drop or oil by soft cloth and dry the glass.
2. Use oil free cotton cloth or glass clean paper to wipe the glass from center to outside with alcohol or detergent.
3. Change the cloth to wipe the glass until the glass is clean.

First Choice for Security Professionals